Foot and Mouth Disease

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Update 1

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Fact Sheet

Introduction

Foot and mouth disease (FMD) is a highly contagious, debilitating viral disease affecting cloven-footed domestic and wild animals including bovids (cattle, zebus, domestic buffaloes, yaks), sheep, goats, pigs, deer, camelids (camels, dromedaries, llamas, vicunas), and antelope. FMD has not been seen in the US since 1929 when an outbreak occurred in California. Because it spreads rapidly and widely, and has grave consequences on animal welfare and trade, FMD is one of the most feared animal diseases.

Cause

The FMD virus has seven distinct types: A, O, C, SAT1, SAT2, SAT3, and Asia1. Depending on conditions, it may remain infective in carcasses, animal byproducts, water, and in animal bedding or on contaminated clothing or equipment for up to one month.

Development of the Disease

Following exposure, susceptible animals may show signs in 2-14 days. Clinical signs may vary with the viral type and species affected. Although usually not fatal in adults, mortality approaching 100% may be seen in young stock.

Cattle

- Fluid-filled vesicles or blisters on the nostrils and muzzle, in the mouth (tongue, dental pad, gums, internal cheek, palate, lips), teats, and near the claws (coronary band and between the claws)
- Vesicles may rupture and drain leaving eroded, raw areas
- Fever

THE UNITED STATES IS FREE FROM FOOT AND MOUTH DISEASE

- Inappetence
- Decreased milk production
- Lip smacking, excessive salivation, teeth grinding
- Lameness
- Complications may include infection of blisters, hoof deformation, and mastitis

Virus

Blisters in the tongue

Excessive salivation

Sheep and goats

- Lesions are similar to those seen with cattle but are less pronounced.
- Cessation of milk production in lactating animals may be seen.

Pigs

- Lesions are similar to those seen in cattle, and vesicles also may occur on the snout
- May develop severe foot lesions particularly when housed on concrete

Spread of the Disease

The FMD virus can be spread to susceptible animals by direct contact with infected animals or their secretions and excretions, or by indirect contact with people and objects that have become contaminated. Airborne spread is possible up to 40 miles over land and 180 miles over water. FMD can be transmitted to susceptible animals when they are exposed to the following circumstances:

Animal Health and Food Safety Services

For additional information contact the Animal Health Branch at:
Phone: (916) 654-1447 Fax: (916) 653-2215
Or visit our website at http://www.cdfa.ca.gov

CDFA™
California Department of Food and Agriculture

Redding District:	(530) 225-2140
Modesto District:	(209) 491-9350
Tulare District:	(559) 685-3500
Ontario District	(909) 947-4462
USDA-VS Area Office	(916) 857-6170 (877) 741-3690

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- People wearing contaminated clothing or footwear
- Infected animals are added to a herd or flock
- Contaminated facilities or equipment are used
- Contaminated vehicles are used for transportation
- Fed raw or improperly cooked garbage containing infected meat or animal products
- Exposure to contaminated water, hay, feedstuffs, hides, or pharmaceuticals
- Exposure of a female to semen from an infected stud

Diagnosis

Clinical signs resembling those of FMD should be promptly reported to your private veterinarian. Many conditions, including vesicular stomatitis, bovine viral diarrhea, bluetongue, and infectious bovine rhinotracheitis have similar signs. A thorough history and physical examination in conjunction with laboratory testing of blood, vesicular fluid, or tissue samples will assist the veterinarian in determining the diagnosis.

Treatment

There is no known effective treatment.

Control and Prevention

There are devastating consequences of an FMD outbreak to animal welfare and production, and on local and international trade. Vaccination may be considered by federal authorities, however, “stamping out” by depopulation of infected and in-contact susceptible animals is the preferred method of control. Some of the potential consequences of FMD are as follows:

- Quarantine of facilities housing animals suspected of infection with FMD. This precaution is necessary until laboratory testing determines the diagnosis.
- Movement restrictions will be immediately placed on animals and their products within the region or country where infection is suspected or confirmed.
- Depopulation of affected and in-contact animals on a facility with confirmed FMD. Indemnity is paid according to State and federal law.
- Officials may elect to depopulate susceptible animals in the area surrounding the confirmed presence in order to halt the spread of infection and prevent it from entering a wildlife reservoir.
- Depopulated animal carcasses from an FMD positive facility are buried or burned on-site to prevent the spread of infection. The facility is then thoroughly cleaned and disinfected. Restocking is done after the facility has been vacant for a minimum of 30 days, and new animals are closely observed for recurrence of infection.
- Regional closure of livestock markets.
- Severe trade restrictions including export bans on all cloven-footed animals and their products.

Zoonotic Potential

FMD is not considered a public health threat.

What can you do?

Restricted species owners and their veterinarians will be the first to see and suspect a foreign animal disease incursion. Many reports of suspicious oral blisters are due to feed-related mechanical trauma, but each report must be investigated as a potential foreign animal disease. Any delay in reporting and determining the diagnosis could result in further spread of the infection.

- Promptly report any suspicious clinical signs to your veterinarian.
- Foreign travelers arriving in the US and producers visiting foreign countries should be careful not to expose US livestock and restricted species to FMD or other foreign animal diseases.
- Specifically, travelers that have visited animal facilities in other countries should not visit US facilities for a minimum of 5 days after they return. Consult your veterinarian or animal health official for specific biosecurity recommendations for foreign travelers.
- Consult your veterinarian about routine biosecurity measures that can minimize the risk of disease introduction to your facility.